Patent
Attorney's Docket No. 032986-016

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Tommi LINNAKANGAS, et al.	)	Group Art Unit: Unassigned
	)	
Application No.: Unassigned	)	Examiner: Unassigned
	)	
Filed: May 24, 2001	)	
	)	
For: IPSec Processing	)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Before examination, please amend this application as follows.

IN THE SPECIFICATION

Please **REPLACE** the heading at page 1, line 3 with the following heading.

--Background--

Please **DELETE** the heading at page 1, line 8.

Please **REPLACE** the heading at page 2, line 9, with the following heading.

--Summary--

Please **REPLACE** the heading at page 4, line 8, with the following heading.

--Detailed Description--

IN THE CLAIMS

Please **REPLACE** the following paragraph beginning at page 11, line 1, with the following paragraph.

--What Is Claimed Is:--.

Please **CANCEL** claims 1-7.

Please **ADD** new claims 8-14 as follows.

8. (New) A network device for implementing Internet Protocol Security, comprising:

at least one IP forwarder arranged to receive IP packets, each IP packet being associated with a Security Association (SA), the at least one IP forwarder is further arranged to determine the destination of each IP packet and to forward each IP packet to its destination;

a plurality of security procedure modules coupled to the at least one IP forwarder and arranged to implement security procedures for received IP packets in parallel; and

a security controller arranged to allocate negotiated SAs among the security procedure modules and to notify the security procedure modules and the at least one IP forwarder of the allocation, whereby the at least one IP forwarder can send IP packets to the security procedure module implementing the associated SA.

9. (New) A device according to claim 8, wherein the security procedure modules are coupled together to allow the forwarding of an IP packet from one security procedure module to another.

10. (New) A device according to claim 8, wherein the security controller is responsible for creating and modifying IP packet filters in the at least one IP forwarder, and the filters are responsible for routing IP packets to the security procedure modules.

11. (New) A device according to claim 10, wherein the filtering of packets is carried out using at least one selector, the at least one selector being the Security Parameter Index (SPI), which identifies a SA and which is contained in a header of the IP packets.

12. (New) A device according to claim 8, wherein the security controller is coupled to an Internet Key Exchange (IKE) module which is responsible for negotiating SAs with peer IKE modules, and the security controller is arranged to receive from the IKE module details of negotiated SAs.

13. (New) A device according to claim 8, wherein at least one of the at least one IP forwarder, security procedure modules, and security controller are implemented in at least one of software, hardware, and a combination of hardware and software.

14. (New) A method of processing IP packets at a network device, the method comprising the steps of:

allocating negotiated Security Associations (SAs) among a plurality of security procedure modules arranged to implement security procedures for received IP packets;

notifying the security procedure modules and at least one IP forwarder of said allocation; and

receiving IP packets at the at least one IP forwarder, identifying the SAs associated with the packets, and forwarding the packets to the security procedure modules implementing the associated SAs.

IN THE ABSTRACT

Please **REPLACE** the three paragraphs beginning at page 13, line 2, with the following paragraph.

--A network device for implementing Internet Protocol Security (IPSec) and having at least one IP forwarder arranged to receive IP packets. Each IP packet is associated with a Security Association (SA). The at least one IP forwarder determines the destination of each packet, and forwards the packet to its destination. A plurality of security procedure modules are coupled to the at least one IP forwarder and are arranged to implement security procedures for received IP packets in parallel. A security controller is arranged to allocate negotiated SAs among the security procedure modules and to notify the security procedure modules and the

at least one IP forwarder of the allocation, whereby the at least one IP forwarder can send IP packets to the security procedure module implementing the associated SA.--

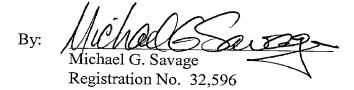
REMARKS

The specification and Abstract have been amended, and the claims have been replaced to place the application in better form for examination. Attached is a marked-up copy that reflects the changes. Favorable consideration is requested.

It will be understood that the scope of the claims has not been narrowed or even changed by this Preliminary Amendment. Moreover, as already noted the claims have not been amended for reasons related to the statutory requirements for a patent but simply to improve their form and thus facilitate prosecution of this application. Accordingly, those seeking to interpret these claims should not limit them only to their literal scopes.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 

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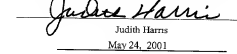

Judith Harris

May 24, 2001
Date

Attachment to Preliminary Amendment dated May 24, 2001

Marked-up Copy

Page 1, heading at line 3.

[Field of the Invention] Background

Page 1, heading at line 8.

[Background of the Invention]

Page 2, heading at line 9.

[Summary of the Invention] Summary

Page 4, heading at line 8.

[Detailed Description of a Preferred Embodiment] Detailed Description

Page 11, paragraph beginning at line 1.

[Claims] What Is Claimed Is:

Page 13, three paragraphs beginning at line 2.

[IPSec Processing]

A network device for implementing Internet Protocol Security (IPSec) and [comprising] having at least one IP forwarder arranged to receive IP packets. Each IP packet [each of which] is associated with a Security Association (SA). The at least one IP forwarder[(s)] determines the destination[s] of [the] each packet[s], and forwards the packet[s] to [their] its destination[s]. A plurality of security procedure modules are coupled to the at least one IP forwarder[(s)] and are arranged to implement security procedures for received IP packets in parallel. A security controller is arranged to allocate negotiated SAs [amongst] among the security procedure modules and to notify the security procedure modules and the at least one

IP forwarder[(s)] of the allocation, whereby the at least one IP forwarder[(s)] can send IP packets to the security procedure module implementing the associated SA.

[Figure 2]